

编号/No: VTCXXX
版次/Revision: 0
型号/Type: PZL-10W

日期/Date:

This data sheet, which is part of Validation of Type Certificate (No: VTCXXX), prescribes condition and limitation under which the product for which the type certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

Wytwórnia Sprzętu Komunikacyjnego
"PZL - RZESZÓW" S.A.
ul Hetmańska 120
35-078 Rzeszów
POLSKA

[illegible]

型号认可证数据单 THE VALIDATION DATA SHEET

编号/No: VTCXXX
版次/Revision: 0
型号/Type: PZL-10W

批准人/Approved By:

日期/Date:

本数据单是型号认可证(编号: VTC XXX)的组成部分, 它规定了符合中国民用航空局的适航要求所颁发此型号认可证的产品状态和限制。

This data sheet, which is part of Validation of Type Certificate (No: VTCXXX), prescribes condition and limitation under which the product for which the type certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

型号合格证持有人: Validation Type Certificate Holder:

Wytwórnia Sprzętu Komunikacyjnego
"PZL - RZESZÓW" S.A.
ul Hetmańska 120
35-078 Rzeszów
POLSKA

有效页清单/List of effective pages :

页数/Page No:	1	2	3	4	5	6	7	8	9	10	11	12	13
版次/Rev. No.	0	0	0	0	0	0	0	0	0	0	0	0	0

第1 部分 概述

SECTION 1 GENERAL

1. CAAC 认可数据单和型号合格证数据单

CAAC Validation Data Sheet and Type Certificate Data Sheet

	中国民用航空局认可数据单号、版次和颁发日期 CAAC Validation Data Sheet Number, Revision and issuance date	型号合格证数据单号、版次和颁发日期 Type Certificate Data Sheet Number, Revision and issuance date
当前 Current	编号: VTCXXX 版次: 0 2010年X月x日	CC-190, 4-th Issue 31.07.2000.
历史 History	无 NONE	不适用 N/A

2. 类别/Category: 航空发动机/Aviation Engine

3. 认可当局/Validation Authority: 中国民用航空局/CAAC
审定当局/Certifying Authority: 欧洲航空安全局/EASA

1993 年 9 月 20 日颁发波兰数据单 (Polish) CC-190 第一版。

1993 年 12 月 1 日获得颁发德国型号合格批准, 数据单 TC7001 第一版。

注: 波兰加入欧盟在 EASA 成立之后, 由于发动机之前于 1993 年已获得德国型号合格批准, 所以根据 EASA 的政策自动转成 EASA 认可批准。

4. 型号合格证持有人/Type Certificate Holder:

Wytwórnia Sprzętu Komunikacyjnego
"PZL - RZESZÓW" S.A.
ul Hetmańska 120
35-078 Rzeszów
POLSKA

5. 制造人/Manufacturer:

Wytwórnia Sprzętu Komunikacyjnego
"PZL - RZESZÓW" S.A.
ul Hetmańska 120
35-078 Rzeszów
POLSKA
POLAND

6. ETOPS: 不适用/NA

7. CAAC 专用要求/CAAC Special Requirements: 无/NONE

第2部分 审定基础

SECTION 2 CERTIFICATION BASIS

- 1、 (波兰)民航局审定日期: 1993年9月20日
Civil Aviation Office (Poland) Certification Date: Nov. 14 2002
- 2、 (波兰)民航局型号合格证数据单编号: CC-190
Civil Aviation Office (Poland) Type Certificate Data Sheet No: CC-190
- 3、 **EASA 审定基础:** 审定基础为 JAR-E ch. 8 相当于 FAR33 部修正案 13;
EASA Certification Basis: JAR-E Ch.8 equivalent to FAR 33 to Amendment 13.
- 4、 专用条件: 无
Special Conditions: N/A
- 5、 追溯和豁免: 无
Reversion and Exemptions: N/A
- 6、 等效安全: 无
Equivalent Safety Findings: N/A
- 7、 环境标准(包括噪声): JAR 36 (1998年5月23日第一版) F 分部之 400、410、420、430、440、450 节
Environmental Standards including Noise: JAR 36 (Initial issue, 23 May 1998) Sub-part F. Paragraphs .400, .410, .420, .430, .440, .450.

第3部分 技术特征和使用限制

SECTION 3 Technical Characteristics and operational limitations:

- | | |
|--------------------|---|
| <u>发动机类型</u> | <ul style="list-style-type: none">- 自由涡轮;压气机: 轴流-离心式, 带自动放气装置;6 级轴流式, 1 级离心式;压气机涡轮: 轴流式, 二级;动力涡轮: 轴流式, 一级;燃烧室: 环形, 带离心式喷油嘴。 |
| <u>Engine type</u> | <ul style="list-style-type: none">- turbine with free power turbine;compressor: axial-centrifugal with automatic air bleeding,6 axial and 1 centrifugal stages;compressor turbine: axial, two-stage; |

power turbine, axial, single-stage;
 combustion chamber: annular type with centrifugal nozzle.

发动机额定功率（参见注释：1、2）

Engine ratings (see Note. 1,2)

最大连续功率

Maximum Continuous

最大输出轴功率	574
---------	-----

（海平面,国际标准大气条件下）， kW

Shaft power maximum output	574
----------------------------	-----

(at H=0, V=0 ISA conditions), kW

燃气发生器最大转速， rpm	29 330
----------------	--------

Gas generator maximum speed, rpm	29 330
----------------------------------	--------

输出轴最大转速， rpm	23 615
--------------	--------

Output shaft maximum speed, rpm	23 615
---------------------------------	--------

起飞（5 分钟）

Take-off (5 minutes)

最大输出轴功率	662
---------	-----

（海平面,国际标准大气条件）， kW

Shaft power maximum output	662
----------------------------	-----

(at H=0, V=0 ISA conditions), kW

燃气发生器最大转速， rpm	30 550
----------------	--------

Gas generator maximum speed, rpm	30 550
----------------------------------	--------

发动机额定功率，续

Engine ratings, cont

输出轴最大转速， rpm	23 615
--------------	--------

Output shaft maximum speed, rpm	23 615
---------------------------------	--------

30 分钟一台发动机不工作 (OEI)

30 minutes OEI

轴功率最大输出功率	736
(在海平面,国际标准大气条件下), kW	
Shaft power maximum output	736
(at H=0, V=0 ISA conditions), kW	
燃气发生器最大转速, rpm	30 900
Gas generator maximum speed, rpm	30 900
输出轴最大转速, rpm	23 615
Output shaft maximum speed, rpm	23 615

2.5 分钟一台发动机不工作 (OEI)

2.5 minutes OEI

最大输出轴功率	846
(海平面,国际标准大气条件), kW	
Shaft power maximum output	
(at H=0, V=0 ISA conditions), kW	
	846
燃气发生器最大转速, rpm	32 100
Gas generator maximum speed, rpm	32 100
输出轴最大转速, rpm	23 615
Output shaft maximum speed, rpm	23 615

输出轴

Output shaft

动力涡轮与输出轴传动比	1:1
Power turbine to output shaft ratio	1:1

控制系统

Control system

燃油计量泵:

Fuel Metering Pump:

- 生产厂家:	KTEHS "PZL-Hydral" Wrocław;
- manufacturer:	KTEHS "PZL-Hydral" Wrocław;
- 型号:	ALRP-5;
- type:	ALRP-5;

动力涡轮转速控制器:

Power Turbine Speed Governor:

- 生产厂家:	KTEHS "PZL-Hydral" Wrocław;
- manufacturer:	KTEHS "PZL-Hydral" Wrocław;
- 型号:	ALRP-2A 或 ALRT-2B;
- type:	ALRT-2A 或 ALRT-2B;

放气控制阀:

Air Bleed Control Valve:

- 生产厂家:	KTEHS "PZL-Hydral" Wrocław;
- manufacturer:	KTEHS "PZL-Hydral" Wrocław;
- 型号:	ALUP-1;
- type:	ALUP-1;

电子限制装置:

Electronic Limiters Unit:

- | | |
|-----------------|-----------------------------------|
| - 生产厂家: | KTEHS "PZL-Hydral" Wrocław; |
| - manufacturer: | KTEHS "PZL-Hydral" Wrocław; |
| - 型号: | ALAE-2; |
| - type: | ALAE-2; |
| | |
| - 生产厂家: | PPH "POLON-ZELMECH" Zielona Góra; |
| - manufacturer: | PPH "POLON-ZELMECH" Zielona Góra; |
| - 型号: | ALAE-2; |
| - type: | ALAE-2; |

燃油型号与添加剂规格: 经批准的燃油满足国标 GB6537-2006 燃油牌号的要求。
Fuel types and additives specification: Approved fuel compliance with requirement of GB6537-2006.

具体参见该型号的《维护手册》。

Refer to the Maintenance Manual of the model.

发动机燃油滤

Fuel filtration at engine

进口处不可低于:

俄罗斯国家标准 GOST (ГОСТ) 17216-71 号第 8 级
 或《国家宇航标准》1638 号第 4 级

inlet not worse than:

grade 8 conf. GOST (ГОСТ) 17216-71 or
 grade 4 conf. National Aerospace Standard 1638.

滑油规格:

参见该型号的《维护手册》。

Oil specification:

Refer to the Maintenance Manual of the model.

点火:

Ignition:

点火装置:

Igniter:

- 型号: KNV-22 (KHB-22);
- model: KNV-22 (KHB-22);
- 类别: 感应式;
- type: inductive;

电腐蚀火花塞:

Electroerosive ignition plug:

- 型号: SE-23 (CЭ-23);
- model: SE-23 (CЭ-23);
- 数量: 2;
- quantity: 2;

尺寸和重心位置在发动机型号《安装手册》中有介绍。

Dimensions and center of gravity location are included in the Installation Manual for the engine model.

发动机干质量:

Engine dry weight:

(仅含运转发动机所需的一项设备, 无残留液体)

公斤(磅) 141±2% (310.62±2%);

(including only an equipment needed to run the engine, without residual fluids),

kg (lbs) 141±2% (310.62±2%);

认可的国外审定基础:

JAR-E, Change 8.

Certification Basis:

JAR-E, Change 8.

注释 1: 发动机额定功率

是基于下述条件下的校验台性能数据：

- 国际标准大气(15 °C, 760 mmHg) (59 °F, 29.92 "Hg);
- 无放气;
- 无发动机进气道损失。

NOTE 1: The Engine Ratings

are based on calibrated stand performance under the following conditions:

- International Standard Atmosphere (15 °C, 760 mmHg) (59 °F, 29.92 "Hg);
- no bleed-air extraction;
- no engine inlet duct losses.

注释 2: 在起飞、30 分钟一台发动机不工作 (OEI) 和 2.5 分钟一台发动机不工作 (OEI) 额定功率下并处于最大放气状态时，发动机最大输出功率可能因为燃油控制系统限制器处于运行状态而下降。

因此，在结冰状态下的起动时，应将机舱通风与加热系统关闭（压气机后机匣放气）。

如果必需使用 30 分钟 OEI 和 2.5 分钟 OEI 的最大功率，则进气道粒子分离器加热系统（燃气室机匣放气）及发动机除冰系统（进气加热）均应关闭。

在关闭进气及粒子分离器加热下发动机的任何操作均不得超过 30 秒。

NOTE 2: At Take-off, 30 min.OEI and 2.5 min.OEI ratings with all bleeds on, the engine maximum delivered power may decrease because of fuel-control system limiters operation.

Thus for starting at icing conditions it is reasonable to switch the cabin ventilation and heating system off (compressor rear case bleeding). If maximum power of 30 min.OEI and 2.5 min.OEI is necessary to use, the inlet dust separator heating (combustion chamber case bleed) and the engine de-icing system (inlet air heating) should be switched off.

Any operation with switched inlet air and dust separator heating off should be limited to 30 seconds max.

注释 3: 温度限制:

最大可允许的压气机涡轮出口燃气温度（观测值）为：

- | | | |
|---------------------------------|--------|--------------------|
| - 最大连续功率： | 943 K | (670 °C; 1238 °F); |
| - 起飞： | 998 K | (725 °C; 1337 °F); |
| - 30 分钟 <u>一台发动机不工作 (OEI)</u> ： | 1008 K | (735 °C; 1355 °F); |

- 2.5 分钟一台发动机不工作 (OEI) : 1043 K (770 °C; 1418 °F);
- 起动: 953 K (680 °C; 1256 °F);
- 加速检测过程中: 998 K (725 °C; 1337 °F);

NOTE 3. Temperature limits

Maximum allowable compressor turbine outlet gas temperatures (observed) are:

- for maximum continuous: 943 K (670 °C; 1238 °F);
- for takeoff: 998 K (725 °C; 1337 °F);
- for 30 min.OEI: 1008 K (735 °C; 1355 °F);
- for 2.5 min.OEI: 1043 K (770 °C; 1418 °F);
- during starting: 953 K (680 °C; 1256 °F);
- during acceleration check: 998 K (725 °C; 1337 °F).

注释 4: 动力涡轮转速:

- 飞行中: 21 365 , 23 615 rpm;
- 地面运转: 低于 23 615 rpm;
- 瞬时 (最长 15 秒) 最小 19 116 rpm;
- 最大 25 190 rpm.

NOTE 4. Power turbine rotational speed

- during flight: 21 365 , 23 615 rpm;
- Ground Idle: below 23 615 rpm;
- transient (15 sec. max) min. 19 116 rpm;
- max. 25 190 rpm.

注释 5: 输出轴扭矩:

输出轴最大扭矩由电子限制装置根据适用的功率及注释 4 规定的条件进行限制

NOTE 5. Output shaft torque:

The output shaft maximum torque is limited by the Electronic Limiters Unit as applicable for a rating and conditions specified in Note 4.

注释 6: 滑油与燃油压力限制:

- 除了地面慢车和空中慢车状态, 所有
额定功率下滑油细油滤出口处的滑油压力: 0.25 ÷ 0.4 MPa (2.5 ÷ 4.0 kG/cm²);
- 地面慢车和空中慢车额定功率时
滑油细油滤出口处的最小滑油压力 0.2 MPa (2.0 kG/cm²);

- 燃油计量泵进口的燃油压力 0.05 ÷ 0.12 MPa(0.5÷1.2kG/cm²)

NOTE 6. Oil and fuel pressure limitations:

- oil pressure at the oil fine filter output at all ratings except of
Ground Idle and Flight Idle ratings: 0.25 ÷ 0.4 MPa (2.5 ÷ 4.0 kG/cm²);
- min. oil pressure at the oil fine filter output at Ground Idle
and Flight Idle ratings: 0.2 MPa (2.0 kG/cm²);
- fuel pressure at the Fuel Metering Pump inlet: 0.05 ÷ 0.12 MPa
(0.5 ÷ 1.2 kG/cm²);

注释 7: 附件传动和安装:

	面向安装座	速度比	最大扭矩 牛·吨米 (千克米)	最大悬臂力矩 牛·吨米 (千克米)
由燃气发生器驱动				
电动启动机	CC	1.0	9.81 (1.0)	11.95 (1.218)
转速传感器	CC	0.07925	0.3 (0.03)	0.7 (0.07)
由动力涡轮驱动				
转速传感器*)	无	无	无	无

*) 可以将动力涡轮的转速信号提供给飞机。

NOTE 7. Accessory drive and mounting provisions:

	Rotation Facing Dr. Pad	Speed Ratio	Maximum Torque Nm (kGm)	Maximum Overhang Moment Nm (kGm)
<u>Powered from gas generator</u>				
Electric motor starter	cc	1.0	9.81 (1.0)	11.95 (1.218)
Rotation speed pick-up	cc	0.07925	0.3 (0.03)	0.7 (0.07)
<u>Powered from power turbine</u>				
Rotation speed pick-up *)	N/A	N/A	N/A	N/A

*) There are provided means for delivering the power turbine speed pick-up signal for aircraft application.

注释 8: 该型发动机可以安装 UPM-100 型, UPM-100M 型 或 M W3 型扭矩表。

NOTE 8. The engine is provided for operation with the UPM-100, UPM-100M or M W3 torque meter.

注释 9: 放气:

- | | |
|----------------------|------------------|
| - 连续, 供航空器使用 (机舱通风): | 最大放气量 0.07 kg/s; |
| - 安装位置: | 压气机出口机匣; |
| - 此外, 供进气道粒子分离器用气量: | 最大 0.04 kg/s; |
| - 安装于: | 燃烧室机匣; |
| - 供给航空器使用的全部放气量: | 0.11 kg/s; |
| - 发动机除冰系统: | |
| - 安装位置: | 燃烧室机匣 |

放气的使用条件参见该型号的《使用手册》。

NOTE 9. Air bleeding:

- | | |
|---|--------------------------|
| - continuous, for aircraft use (cabin ventilation): | max. 0.07 kg/s; |
| - installed on: | compressor outlet case; |
| - additional, for inlet dust separator: | max. 0.04 kg/s; |
| - installed on: | combustion chamber case; |
| - total air bleed for aircraft use: | 0.11 kg/s; |
| - engine de-icing system: | |
| - installed on: | combustion chamber case. |

Refer to the Operation Manual of the model for conditions of using the air bleeds.

注释 10 应安装经批准的进气道粒子分离器。

NOTE 10. The approved type inlet dust separator is an installation requirement.

注释 11 在批准的《翻修手册》颁布之前，CAAC 认可前，禁止在 PZL-Rzeszów 工厂以外进行发动机大修。

NOTE 11. Prior to issue of GICA-approved Overhaul Manual and prior to CAAC validation it, the engine overhauls outside the PZL-Rzeszów facility are not permitted.

注释 12 波兰型号合格证数据单 CC-190 第 4 版取代了 1996 年 11 月 15 日公布的第 CC-190/ 第 3 版型号合格证数据单。

NOTE 12. This (Polish) Type Certificate Data Sheet replaces the Type Certificate Data Sheet No. CC-190/ 3 dated 1996.11.15.

完

END